

VZCZCXRO9358
RR RUEHBZ RUEH DU RUEHJO RUEHMR RUEHRN
DE RUEHSA #2007/01 2541034
ZNR UUUUU ZZH
R 101034Z SEP 08
FM AMEMBASSY PRETORIA
TO RUEHC/SECSTATE WASHDC 5655
RUCNSAD/SOUTHERN AF DEVELOPMENT COMMUNITY COLLECTIVE
INFO RUEHTN/AMCONSUL CAPE TOWN 5987
RUEH DU/AMCONSUL DURBAN 0138
RUEHJO/AMCONSUL JOHANNESBURG 8346

UNCLAS SECTION 01 OF 04 PRETORIA 002007

DEPT FOR OES/PCI, OES/ENV, AND AF/S
DEPT PASS EPA/OIA,

SIPDIS

E.O. 12958: N/A

TAGS: [SENV](#) [SOCI](#) [ETRD](#) [SF](#)

SUBJECT: SOUTH AFRICAN ENVIRONMENT, SCIENCE, AND TECHNOLOGY MONTHLY BRIEFINGS, AUGUST 2008

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1. (U) Summary: This is the South African Environment, Science and Technology Monthly Briefings newsletter, August 2008, Volume 3, Number 8, prepared by the U.S. Embassy Pretoria, South Africa.

Topics of the newsletter:

- AFRICAN PENGUINS ON THE BRINK OF EXTINCTION
- DEAT LAUNCHES PLAN TO SAVE SEABIRDS
- New AIR QUALITY MONITORS INSTALLED IN HOT SPOTS
- DME WINS TURF BATTLE - MINING APPROVED
FOR WILD COAST DUNES
- SUPER-THIN SOLAR PANEL PRODUCTION DELAYED
- GREEN RATING SYSTEM FOR SA PROPERTY
MARKET LAUNCHED
- ENVIRONMENTAL IMPACT ASSESSMENT REGULATIONS
TO BE REVIEWED
- ENGEN INVESTS IN ENVIRONMENTAL IMPROVEMENTS
- SA COMPANY ASSUMES LEAD IN
WASTE-TO-ENERGY CONVERSIONS
- NORTH WEST PROVINCE PLANNING
NEW HUMAN EVOLUTION MUSEUM
- MONTHLY FACTOID

African Penguins on the Brink of Extinction

2. (U) The Southern African Foundation for the Conservation of Coastal Birds, (SAFCCB) has raised a warning about the accelerated decrease in population numbers of the African penguin species. SAFCCB Chief Executive Officer Vanessa Strauss stated that scientific predictions indicate that current trends indicate that the species could be extinct in the next 16 years. A 2007 census recorded 31,000 breeding penguin pairs, while in 2008 the number dropped to 26,000 pairs. SAFCCB reports show that in the 1900s there were over 4 million African penguins in the wild. The population numbers dropped to 450,000 in 1950 and further down to 200,000 in the year 2000.

3. (U) The foundation has been rescuing birds affected by oil spills

on the Cape Town coast and is currently caring for over 80 dehydrated and emaciated penguins picked up in June and July. Strauss attributes the dwindling penguin population to oil pollution. She said 'oiled penguins are at risk because they cannot swim or find food'. The oil clumps the penguin's feathers together, exposing their skin to cold sea water, putting their lives in danger. According to Strauss, penguins are "an indicator species whose status reflects the well being of marine ecosystem."

DEAT Launches Plan to Save Seabirds

14. (U) Department of Environmental Affairs and Tourism (DEAT) Head of Research for Antarctica and Islands Dr. Johann Augustyn announced that DEAT has launched its National Plan of Action for Reducing the Incidental Catch of Seabirds in Long-line Fisheries (NPOA-Seabirds).

Dr. Augustyn announced the NPOA in the Western Cape in late August during his opening speech to the Agreement on the Conservation of Albatrosses and Petrels (ACAP) advisory meeting. Over 18,000 birds are reported killed annually because of incidental catches during long-line fishing. Augustyn said that by-catch studies indicate that long-line catches are responsible the declining populations and threatened the conservation status of many species. According to Augustyn "Thirteen of these recorded species are currently threatened with extinction resulting from factors such as the deterioration of breeding grounds for many albatrosses and petrels".

The recent incidental killing of over 28 albatross and petrel species prompted DEAT to develop its NPOA.

New Air Quality Monitors Installed in Hot Spots

15. (U) DEAT and the Mpumalanga Provincial Department of Agriculture Q5. (U) DEAT and the Mpumalanga Provincial Department of Agriculture and Land Affairs (DALA) installed new air quality monitoring stations in a 31,106 square kilometer area encompassing the small

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towns of Balfour, Middleburg, Standerton and Witbank. The region is noted for its heavy industry operations, residential coal burning and veld fires, all of which contribute to its severe air pollution.

DEAT Deputy Minister Rejoice Mabudafhasi stated that the new air quality monitoring stations will identify pollutants and the specific areas from which they come. The stations will also detect and measure pollutants such as benzene, carbon monoxide, lead, and sulfur dioxide. The data collected will be made available to the general public and to relevant stake holders such as the Air Quality Officers Forum, a forum that includes representatives from priority area municipalities.

16. (U) Mabudafhasi noted that once a polluter was identified, especially the heavy industry companies, DEAT would present the company with proof about its pollution levels. DEAT would then work with companies to remedy the situation over a stipulated time frame.

She added that polluters could be subjected to fines or jail terms if they were recalcitrant or ignored time frames. The monitoring stations were installed at a cost of R1million (\$134,000) each, with the financial partnership of DALA and the Royal Danish Embassy.

DME Wins Turf Battle - Mining Approved For Wild Coast Dunes

17. (U) A twelve-year old turf battle between the Department of Minerals and Energy (DME) and the Department of Environmental Affairs and Tourism (DEAT) ended in July when DME approved titanium dune mining on the Wild Coast. The DME granted Australian mining company Mineral Commodities (MRC) rights to extract titanium from the Xolobeni Mineral Sands project located on the Indian Ocean coast. The sand dunes are reported to contain over 346 metric tons of titanium, with an estimated value of R11 billion (\$1.46 billion).

DME spokesperson Sputnik Ratau was adamant that decisions on mining applications should not be driven "only by environmental issues". DEAT and an environmental group Sustaining the Wild Coast maintain that the mining project could cause irreparable harm to the ecosystem, which includes international recognized unique biomes.

They are also concerned that the environmental, land, and mineral rights of local inhabitants will be violated. Some commentators believe that this victory could be DME's last one because the National Environmental Management Act will soon be amended to make DEAT the ultimate authority to oversee mining applications.

Super-Thin Solar Panel Production Delayed

18. (U) Production equipment problems have stalled manufacturing South Africa's super-thin solar panels. Commercial production was set to commence earlier this year at a Brandenburg, Germany plant, but has now been rescheduled for October or November.

University of Johannesburg (UJ) Professor Vivian Alberts lead the research team that invented this solar panel. The South African panel is only five micrometers thick compared to the common 350 micrometer thick panel. Experts believe that the thin silicon-free panel layered with semiconductor materials like copper, indium, gallium, or selenium is more effective in absorbing solar energy. Alberts and the UJ formed the Photovoltaic Technology Intellectual Property (PTIP) company, which then teamed with Germany's IFE Thin Film for financial, licensing, technical and production capacities. QFilm for financial, licensing, technical and production capacities. The project is expected to produce about 450,000 panels a year. A local plant in Paarl, Western Cape province is envisioned for the future.

Green Rating System for SA Property Market Launched

19. (U) The Green Building Council of South Africa (GBCSA) will launch the first environmental rating system for the country's property market (Green Star South Africa) at its inaugural conference in November 2-4, 2008. The rating system is modeled on the Australian, UK and U.S. systems. GBCSA CEO Nicolas Douglas said Green Star SA will have several distinctive rating tools for different property sectors such as residential, office and public buildings, hotels, and shopping centers. The first phase of the ratings system will target office buildings. Council Chairman Bruce Kerswell said "Green Star is a crucial first step in bringing an effective, industry-driven initiative to South Africa". Douglas noted that international experience has shown that green buildings have higher rents, better occupancy rates, and perform better operationally

Environment Impact Assessment Regulations to be Reviewed

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110. (U) The Department of Environmental Affairs and Tourism (DEAT) is studying its current Environmental Impacts Assessment (EIA) process to "review the efficiency and effectiveness of EIA as a tool for environmental management in South Africa". Energy, mining and infrastructure development companies have complained that the EIA process is slow and cumbersome. NGOs feel that the process is non-inclusive and not responsive to dissent. EIA regulations were first enacted as part of the National Environmental Management Act 107 of 1998. Amendments were put into effect in July 2006 following a review of the initial process and procedures. DEAT's goal is to make certain that environmental impacts are considered before decisions are implemented. DEAT anticipates releasing the results of this study at an EIA conference in November 2008.

Engen Invests in Environmental Improvements

111. (U) Durban-based petroleum refinery and fuel supply group Engen claimed to have spent over R60 million (\$7.8 million) on environmental improvements over the last decade and to have reduced its emissions by 60%. Engen Managing Director Willem Oosthuizen described the investment as a part of Engen's efforts to receive an ISO 14001 certificate. The ISO 14001 is administered and enforced by the South African Bureau of Standards, and requires rigorous site emissions audits. Each plant must create a monitoring system to

track potential negative environmental impacts to comply with the ISO process. Oosthuizen said it was a "milestone that was part of a journey which Engen started in 1999 when the refinery started voluntary emission reductions." Community Liaison Forum's Environmental Representative Lawrence Vartharajulu congratulated Engen and noted that there was still room for improvement.

SA Company Assumes Lead in Waste-to-Energy Conversions

¶12. (U) Gauteng-based industrial heating specialist company Prestige Thermal (PT) successfully installed the world's largest pyrolysis waste-to-energy plant in seven months, compared to the usual 12 - 18 months. Sales and Marketing Director Mark Potgieter said PT's unique technology converts many different materials, unlike most technology which can only convert one type of material. Potgieter commented: "There has been a lot of global competition towards this technology, but ours is the world's first commercially-viable, full-scale, waste-to-energy conversion plant." The plant cost over R28 million (\$3.68 million) and its production capacity is estimated at 3 MW of energy from every three tons of calorific waste. Potgieter noted that the company currently has no agreements that would allow PT's technology to contribute to the national electricity grid. The company has received interest from European companies. Potgieter says the technology is especially useful for countries looking for alternative non-landfill solutions for the management of municipal waste. He noted that the PT technology is reducing landfill sites in the UK by 70% in areas where it is in use. PT has been involved in waste-to-energy technology for over six years.

North West Province Planning New Human Evolution Museum

¶13. (U) North West provincial officials and Wits University academics recently agreed to collaborate on launching a new museum Qacademics recently agreed to collaborate on launching a new museum in an isolated corner of North West province. The Taung Skeleton, a fossil found in 1924 near Taung, (about 100 kilometers from Kimberley) will be the drawing card. The museum will be located near the lime works quarry where the skull was found. NW Province Department of Economic Development and Tourism MSC Darken Africa said that the museum will depict the history of the skull and all the other artifacts discovered in the quarry. The Taung Child (as the complete skeleton is known) will remain at Wits. Africa said that security, climate and other factors did not make it feasible to display the skull, which will instead be represented by casts supplied by the University.

¶14. (U) The Taung Skull was discovered by a quarry worker and was delivered to Raymond Dart, an anatomist at Wits who recognized its significance. Dart described it as a new species, an Australopithecus Africanus. Wits University Anatomy and Human Biology Professor Emeritus Philip Tobias noted, "It was the first discovery in Africa of an ancient member of the family of man and has switched the spotlight of ancient human ancestry from Asia to Africa for the first time." Tobias has worked in the quarry since the 1980's and said sampling in the quarry has Tobias has worked in the quarry since the 1980's and said sampling in the quarry has established that the site was occupied during a number of periods from the Pleistocene to the San/Bushman. Tobias commented that this

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meant that Taung has a "nearly unique record of the difference stages of human evolution.

Monthly Factoid

¶15. (U) South Africa has the oldest meteor scar in the world at the Vredefort Dome near Parys in the Free State province.

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